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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/840,028	05/05/2004	Keith N. Ravenscroft	88369-CON	7302
28020	7590	08/24/2005	EXAMINER	
GRAY, PLANT, MOOTY, MOOTY & BENNETT, P.A. P.O. BOX 2906 MINNEAPOLIS, MN 55402-0906			ZHENG, LOIS L	
		ART UNIT	PAPER NUMBER	
		1742		

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/840,028	RAVENS CROFT ET AL.	
	<b>Examiner</b> Lois Zheng	<b>Art Unit</b> 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 05 May 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 84-108 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 84-108 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    - a) All    b) Some \* c) None of:
      1. Certified copies of the priority documents have been received.
      2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
      3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)              |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>24 January 2005</u> . | 6) <input type="checkbox"/> Other: _____.  |

## DETAILED ACTION

### ***Status of Claims***

1. Claims 1-83 are canceled in view of the amendment filed 5 May 2004. Claims 84-108 are currently under examination.

### ***Claims Objections***

2. Claim 107 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 100. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 84-86 and 89-95 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 84-86 recites the limitation "the aqueous solution" in lines 4, 1 and 1 respectively. There is insufficient antecedent basis for this limitation in the claim.

Instant claims 89-95 recite an accelerator, a metal chelator and a surface tension reducer. It is unclear whether the accelerator, the metal chelator and the surface tension reducer are added to the aqueous solution or the intermediate water insoluble

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diacarboxylate or ion phosphate coating. Therefore, instant claims 89-95 are indefinite. In this Office Action, the examiner is construing that the accelerator, metal chelator and surface tension reducer are directed to the aqueous solution comprising hydroxide, nitrate and nitrite.

Instant claim 95, "grains per liter" should be changed to "grams per liter".

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 84-90 and 92-99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitchell US 3,899,3679(Mitchell) in view of Kaiser 5,089,349(Kaiser).

Mitchell teaches a coating composition for blackening of steel substrates (abstract). The coating composition comprising 50-90 parts by weight of alkali metal hydroxide, 0.1-50 parts by weight of alkali metal nitrate, 0.1-50 parts by weight of alkali metal nitrite(col.1 numeral 48-58). The examples of Mitchell teach the alkali metal hydroxide, nitrate and nitrite are sodium hydroxide, sodium nitrate and sodium nitrite (col. 3 lines 3-28). The coating composition of Mitchell further comprises about 0.001-about 20 parts by weight of alkali metal molybdate salt such as sodium molybdate(col. 1 lines 48-51, example 1) and 0-20 parts by weight of wetting agents(col. 1 lines 62-65, examples 1-2, col. 3 lines 33-36).

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However, Mitchell does not explicitly teach the claimed intermediate water insoluble dicarboxylate or iron phosphate coated ferrous metal substrate.

Kaiser teaches that iron phosphated conversion coating can be used to treat metal surfaces in order to enhance corrosion resistance and to improve adherence of subsequent paint and other coating such as chromic or non-chromic materials (col. 1 lines 18-23, col. 6 lines 30-34).

Regarding instant claim 84, it would have been obvious to one of ordinary skill in the art to have applied the coating composition of Mitchell to an iron phosphate coated ferrous metal substrate since Kaiser teaches that the iron phosphate coated metal substrate has enhanced corrosion resistance and improved adhesion to subsequent paint and other coating such as chromic and non-chromic coatings. The coating result from applying the coating solution to an iron phosphate coated ferrous metal substrate as taught by Mitchell in view of Kaiser is a magnetite coating as claimed.

Regarding instant claim 86, Mitchell in view of Kaiser teach the sodium hydroxide, sodium nitrate and sodium nitrite as claimed.

Regarding instant claims 89-90 and 92, Mitchell in view of Kaiser teaches the claimed accelerator such as sodium molybdate and the claimed surface tension reducer such as alkyl naphthalene sodium sulfonate.

Regarding instant claims 85, 87, 93 and 95-97, the component concentration of the coating solution of Mitchell in view of Kaiser overlap the claimed sodium hydroxide, sodium nitrate, sodium nitrite, accelerator and surface tension reducer concentration ranges. Since the component concentration ranges of Mitchell in view of Kaiser overlap

the claimed component concentration ranges, the coating solution pH range of Mitchell in view of Kaiser would have inherently overlaps the claimed pH range. Therefore, a *prima facie* case of obviousness exists. The selection of the claimed oxidizing agents, accelerator and surface tension reducer concentration and pH ranges from the concentration ranges of Mitchell in view of Kaiser would have been obvious to one of ordinary skill in the art since Mitchell in view of Kaiser teaches the same utilities in their sodium hydroxide, sodium nitrate, sodium nitrite, sodium molybdate, and alkyl naphthalene sodium sulfonate concentration ranges. See MPEP2144.05.

Regarding instant claims 88 and 98, the temperature limitations recited in the instant claims do not lend patentability since they are process limitations and the instant claims are composition claims. The claimed coating composition does not depend upon the temperature of the solution.

Regarding instant claim 99, the coating result from applying the coating solution to an iron phosphate coated ferrous metal substrate as taught by Mitchell in view of Kaiser is a magnetite coating as claimed.

8. Claims 91, 94, 100-101, and 106-108 are rejected under 35 U.S.C. 103(a) as being Mitchell in view of Kaiser, and further in view of Matsushima US 3,632,452(Matsushima).

The teachings of Mitchell and Kaiser are discussed in paragraph 6 above. However, Mitchell in view of Kaiser does not explicitly teach the claimed metal chelator.

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Matsushima teaches a coating composition for treating the surfaces of stainless steel (abstract). The coating composition of Matsushima comprises 0.1-20g/l of alkali salts of thiosulfuric acid such as sodium thiosulfate (col. 2 lines 53-56, example 1).

Regarding instant claim 91 and 94, it would have been obvious to one of ordinary skill in the art to have incorporated the 0.1-20g/l of alkali salts of thiosulfuric acid such as sodium thiosulfate as taught by Matsushima into the coating composition of Mitchell in view of Kaiser in order to improve the oxidizing effect as taught by Matsushima (col. 2 lines 53-62). In addition, the concentration of sodium thiosulfate as taught by Mitchell in view of Kaiser and Matsushima overlaps the claimed metal chelator concentration of about 1.0 to about 10.0 grams per liter. Therefore, a prima facie case of obviousness exists. The selection of claimed metal chelator such as sodium thiosulfate concentration from the concentration range of Mitchell in view of Kaiser and Matsushima would have been obvious to one of ordinary skill in the art since Mitchell in view of Kaiser and Matsushima teaches using sodium thiosulfate in the treatment solution for metal substrate as claimed. See MPEP 2144.05.

Regarding instant claim 100 and 106-107, Matsushima further teaches that stannous salts such as stannous chloride in the amount of 0.01 – 2g/l can be added to the coating composition (col. 1 line 73 – col. 2 line 25). Therefore, it would have been obvious to one of ordinary skill in the art to have incorporated 0.01 -2 g/l of stannous chloride as taught by Matsushima into the coating composition of Mitchell in view of Kaiser in order to improve coating adhesion and increase in coating weight as taught by Matsushima (col. 2 lines 3-11). In addition, the component concentration of the coating

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composition of Mitchell in view of Kaiser and Matsushima encompasses the claimed component concentrations as recited in instant claim 100. Therefore, a prima facie case of obviousness exists. The selection of claimed component concentration amounts from the concentration ranges of Mitchell in view of Kaiser and Matsushima would have been obvious to one of ordinary skill in the art since Mitchell in view of Kaiser and Matsushima teach the same utilities in their discloses component concentration ranges.

Regarding instant claims 101 and 108, the temperature limitations recited in the instant claims do not lend patentability since they are process limitations and the instant claims are composition claims. The claimed coating composition does not depend upon the temperature of the solution.

#### ***Double Patenting***

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 84-108 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 6,899,769 B2(US'769) in view of U.S. Patent No. 6,576,346 B1(US'346). Although the conflicting claims are not identical, they are not patentably distinct from each other because US'769 teaches an coating solution comprising the oxidizing agent, accelerator, metal chelator and surface tension reducer as claimed. The lack of teaching of the claimed water insoluble dicarboxylate or iron phosphate coated ferrous metal substrate is remedied by the teachings of US'346 since US'346 teaches that an intermediate water insoluble dicarboxylate or iron phosphate coating helps to achieve an aesthetically pleasing and protective coating over the ferrous substrate.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lois Zheng whose telephone number is (571) 272-1248. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LLZ  
1/5/2005

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